TOWN OF HOPEDALE

MASSACHUSETTS

78 Hopedale Street
Hopedale, MA 01747

Bid: **Freedom Street Roadway and Bridge Rehabilitation Project**

Date: July 26, 2016

To: Plan Holders

From: Town of Hopedale

Subject: **ADDENDUM #1**

Opening: NO CHANGE

With reference to **Freedom Street Roadway and Bridge Rehabilitation Project**, please note the following:

The following changes and additional information presented in this Addendum are hereby made a part of the Contract Documents.

This addendum transmits revisions to Proposal Documents as follows:

RESPONSE TO BIDDER QUESTIONS	2 pages
DOCUMENT – SECTION 00100 NOTICE TO BIDDERS	2 pages
DOCUMENT – SECTION 00300 BID	22 pages
DOCUMENT – SECTION 02510 CONSTRUCTION SPECIFICATIONS	2 pages
DRAWING – SHEET NO. 11 of 14	1 page

The following document is provided for information only:

DOCUMENT – MassDOT ROUTINE INSPECTION (August 3, 2010)	11 pages

Please note Responses to Bidder Questions, substitute original pages with the revised pages, and make sure to acknowledge receipt of this Addendum by listing the Addendum number in the space provided at the end of the Bid Sheet (page 00300-8)

RESPONSE TO BIDDER QUESTIONS

Question No. 1:
Looking over the project, how will the erosion control be paid? I don't see an item for it.

Response No. 1:
Item 767.12 COMPOST FILTER TUBES has been added to Section 00300 BID as well as Section 02510 CONSTRUCTION SPECIFICATIONS.

Question No. 2:
Project specifications require MassDOT prequalification to bid on this project. MassDOT prequalifies contractors for various categories including bridge work and highway work. Please specify if the contractors bidding on this project require both certifications or just bridge?

Response No. 2:
Pre-qualification in "**Bridge-Construction**" from the Massachusetts Department of Transportation – Highway Division (MassDOT) is required. See revised Section 00100 and 00300 attached.

Question No. 3:
Sheet 11 of 14 concrete repair notes #7 indicates the concrete removal for repairs is paid under Item 127.12. This item is not included the bid form.

Response No. 3:
Note 7 has been revised, see attached revised Drawing Sheet 11 of 14.

Question No. 4:
There is no special provision for Item 901. Please confirm that all applications for this class of concrete listed on sheet 4 of 14 including abutment caps, revetment detail and southeast sidewalk slab (1st pour) will all be measured and paid under this item.

Response No. 4:
Correct, Item 901., 4000 PSI, 1.5 In., Cement Concrete shall be used to measure and pay for these items of work. No Special Provision for Item 901. was provided as there are no changes or modifications to MassDOT's 1988 Standard Specifications for Highways and Bridges or latest edition of MassDOT's Interim Supplemental Specifications.

Question No. 5:
If thrust blocks are required for the water main what class of concrete will this be paid under?

Response No. 5:
Concrete for thrust blocks will be measured and paid under Item 901., 4000 PSI, 1.5 In., Cement Concrete.

Question No. 6:
The revetment detail on sheet 11 shows placing concrete below water down to bedrock behind the control of water. There is no plan view or underwater inspection report indicating the anticipated limits of this repair. Given the expense of controlling the groundwater and making these placements (which are all part of an item covering various concrete applications) please provide this additional information. Also, please confirm if the rock needs to be leveled and/or cleaned prior to concrete placement

Response No. 6:
The intent of this detail is to remove loose material from within the void, to the extent possible, and fill the void with 4000 PSI, 1.5 In., Cement Concrete. REVETMENT DETAIL has been revised, see attached revised Drawing Sheet 11 of 14.

In addition, attached for information only is the August 3, 2010 Routine Inspection Report prepared by MassDOT at a time when the water level was low enough to visibly see the area in question (Photo. 9).

Question No. 7:
Specification 991.1 Control of Water does not indicate that a PE stamped plan is required. Please confirm that this is correct.

Response No. 7:
A PE stamp is not required for the water control plan / procedure to be submitted under Item 991.1.

Question No. 8:
Could you please send me a list of the plan holders for the project

Response No. 8:
As of this date, the following is the list of plan holders:

Aetna Bridge
iSqft
NEL Corporation
New England Infrastructure, Inc.
R.M. Pacella, Inc.
Projectdog, Inc.

SECTION 00100

NOTICE TO BIDDERS

Town of Hopedale, Massachusetts
Freedom Street Roadway and Bridge Rehabilitation Project

The Town of Hopedale, Massachusetts invites sealed bids for "Town of Hopedale, Massachusetts, **Freedom Street Roadway and Bridge Rehabilitation Project** in accordance with the Contract Documents prepared by BETA GROUP, INC., Consulting Engineers, 315 Norwood Park South, Norwood, Massachusetts, 02062.

Bids will be received at the Hopedale Town Hall:

Hopedale Town Hall
78 Hopedale Street
Hopedale, MA 01747

until **11:00 A.M.** local time on **July 29, 2016**,at which time and place, said Bids will be publicly opened and read aloud.

The location, general characteristics, and principal details of the Work are indicated in a set of drawings, entitled "**Town of Hopedale, Massachusetts, Freedom Street Roadway and Bridge Rehabilitation Project, June 2016".**

The work in this Contract includes, but is not limited to, the rehabilitation of the Freedom Street Roadway and Bridge over Mill River, and reconstruction of the southeast and southwest approach sidewalks, and all appurtenant work associated therewith in the Town of Hopedale, MA.

Bids shall be on a Unit Price basis.

Bid Security: Certified, treasurer's or cashier's check or bid bond in the sum of five (5) percent of the Total Bid is required.

Time for Completion for this project shall be 90 consecutive calendar days from the date stipulated in the Notice to Proceed to commence the Work.

Electronic copies of the Contract Documents may be obtained from the Town of Hopedale's website: http://www.hopedale-ma.gov/advanced-search?keywords=bids&=Search

Hard copies of the Contract Documents may be examined only at the Hopedale Town Hall's Main Office, 78 Hopedale Street, Hopedale, MA 01747 Monday –Thursday between the hours of 9:00 AM and 3:00 PM, and Friday between the hours of 9:00 AM and 12:00 PM, beginning on July 14, 2016.

All Bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended.

→ Addendum #1 **Pre-qualification in "Bridge-Construction" from the Massachusetts Department of Transportation – Highway Division (MassDOT) is required.**

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under this Contract as determined by the Department of

Labor and Industries under provisions of the Massachusetts General Laws Chapter 149, Section 26-27, inclusive, as amended.

No Bidder may withdraw his bid within Ninety (90) days after the actual date of the opening thereof.

The successful Bidder must furnish 100 percent Performance and Labor and Materials Bonds.

The Owner and Engineer, being considered the sole and only judge, reserves the right to waive any informality in, or to reject, any or all bids, should the Owner deem it to be in the owner's best interest to do so.

Town of Hopedale, Massachusetts
Town Administrator
Steven A. Sette

SECTION 00300

BID

To the Town of Hopedale, Massachusetts, herein called the "Owner", for
"Freedom Street Roadway and Bridge Rehabilitation Project"

The Undersigned, as a bidder herein referred to as singular and masculine, declares as follows:

(1) The only parties interested in this BID as Principals are named herein;

(2) this BID is made without collusion with any other person, firm, or corporation;

(3) no officer, agent, or employee of the Owner is directly or indirectly interested in this BID;

(4) he has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this BID, and he has carefully read and examined the Drawings, the annexed proposed AGREEMENT and the Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;

(5) he understands that information relative to subsurface and other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered will be the same as those shown on the Drawings or in any of the other Contract Documents and he agrees that he shall not use or be entitled to use any such information made available to him through the Contract Documents or otherwise or obtained by him in his own examination of the site, as a basis of or ground for any claim against the Owner or the Engineer arising from or by reason of any variance which may exist between the aforesaid information made available to or acquired by him and the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered during the construction work, and he has made due allowance therefore in this BID;

(6) and he understands that the quantities of work tabulated in this BID or indicated on the Drawings or in the Specifications or other Contract Documents are only approximate and are subject to increase or decrease as deemed necessary by the Engineer; and he agrees that, if this BID is accepted he will contract with the Owner, as provided in the copy of the Contract Documents deposited in the office of the Engineer, this BID form being part of said Contract Documents, and that he will perform all the work and furnish all the materials and equipment, and provide all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other things required by the Contract Documents in the manner and within the time therein prescribed and according to the requirements of the Engineer as therein set forth, and that he will take in full compensation therefore the total dollar amount tabulated from the actual measured quantities of said work and each unit or lump sum price stated in this BID as hereinafter set forth.

→ Addendum #1

(7) **It is required that all bidders submitting proposals for this project submit a certificate of prequalification in "Bridge-Construction" from the Massachusetts Department of Transportation. (MassDOT).**

(Note: All entries in the entire BID must be made clearly and in ink; price bid must be written in both words and figures.)

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Item Number	Estimated Quantity	Brief Description: unit or lump-sum price bid in both words and figures.	Total in Figures
115.11	1 Lump Sum	Partial Demolition of Bridge No. H-22-001 _____dollars and_____cents ($_____)	$_____
129.	1100 Square Yard	Pavement Milling _____dollars and_____cents ($_____)	$_____
144.	30 Cubic Yard	Class B Rock Excavation _____dollars and_____cents ($_____)	$_____
151.2	20 Cubic Yard	Gravel Borrow for Backfilling Structures and Pipes _____dollars and_____cents ($_____)	$_____
220.	1 Each	Drainage Structure Adjusted _____dollars and_____cents ($_____)	$_____
227.3	5 Cubic Yard	Removal of Drainage Structure Sediment _____dollars and_____cents ($_____)	$_____

Item Number	Estimated Quantity	Brief Description: unit or lump-sum price bid in both words and figures.	Total in Figures
302.12	160 Foot	12 Inch Ductile Iron Water Pipe (Rubber Gasket)	
		_____dollars	
		and_____cents ($_____)	$_____
345.08	1 Lump Sum	8 Inch Temporary Service	
		_____dollars	
		and_____cents ($_____)	$_____
350.12	1 Each	12 Inch Gate and Gate Box	
		_____dollars	
		and_____cents ($_____)	$_____
358.	3 Each	Gate Box Adjusted	
		_____dollars	
		and_____cents ($_____)	$_____
373.12	80 Foot	12 Inch Water Pipe Insulation	
		_____dollars	
		and_____cents ($_____)	$_____
460.	75 Ton	Hot Mix Asphalt	
		_____dollars	
		and_____cents ($_____)	$_____

Item Number	Estimated Quantity	Brief Description: unit or lump-sum price bid in both words and figures.	Total in Figures
472.	15 Ton	Hot Mix Asphalt for Miscellaneous Work	
		_____dollars	
		and_____cents ($_____)	$_____
504.	350 Foot	Granite Curb	
		_____dollars	
		and_____cents ($_____)	$_____
697.1	5 Each	Silt Sack	
		_____dollars	
		and_____cents ($_____)	$_____
701.	220 Square Yard	Cement Concrete Sidewalk	
		_____dollars	
		and_____cents ($_____)	$_____
701.2	40 Square Yard	Cement Concrete Wheelchair Ramp	
		_____dollars	
		and_____cents ($_____)	$_____
→ 767.12. Addendum #1	50 Foot	Compost Filter Tubes	
		_____dollars	
		and_____cents ($_____)	$_____

Item Number	Estimated Quantity	Brief Description: unit or lump-sum price bid in both words and figures.	Total in Figures
852.	300 Square Foot	Safety Signing for Traffic Management _____dollars and_____cents ($_____)	$_____
866.	900 Foot	4-Inch Pavement Lines Reflectorized (Thermoplastic) _____dollars and_____cents ($_____)	$_____
874.51	1 Lump Sum	Miscellaneous Signs Removed, Discarded, Stacked, or Reset _____dollars and_____cents ($_____)	$_____
901.	22 Cubic Yard	4000 PSI, 1.5 In., 565 Cement Concrete _____dollars and_____cents ($_____)	$_____
905.	2 Cubic Yard	4000 PSI, 3/8 In., 660 Cement Concrete _____dollars and_____cents ($_____)	$_____
991.1	1 Lump Sum	Control of Water - Structure No. H-22-001 _____dollars and_____cents ($_____)	$_____

Item Number	Estimated Quantity	Brief Description: unit or lump-sum price bid in both words and figures.	Total in Figures
992.1	1 Lump Sum	Alteration to Bridge Structure No. H-22-001 _____dollars and_____cents ($_____)	$_____
994.01	1 Lump Sum	Temporary Protective Shielding Bridge No. H-22-001 _____dollars and_____cents ($_____)	$_____

TOTAL OF BID:

_____

_____dollars

and _____ cents $_____

_____

The undersigned agrees that for extra work, if any, performed in accordance with the terms and provisions of the annexed form of AGREEMENT, he will accept compensation as stipulated therein as full payment for such extra work.

If the Bid is accepted by the OWNER, the undersigned agrees to commence work under this Contract on a date to be specified in a written "Notice to Proceed" by the Owner and complete the entire work provided to be done under this Contract within the time stipulated in Table "A" of the AGREEMENT. If this bid is accepted by the Owner, the undersigned, also agrees to comply with the provisions of Section 1.14 “Liquidated Damages” and Table A of the Agreement.

As provided in the INFORMATION FOR BIDDERS, the bidder hereby agrees that he will not withdraw this BID, within 90 consecutive calendar days after the actual date of the opening of Bids, and that, if the Owner shall accept this BID, the bidder will duly execute and acknowledge the AGREEMENT and furnish, duly executed and acknowledged, the required CONTRACT BONDS within fourteen (14) consecutive calendar days after notification that the AGREEMENT and other Contract Documents are ready for signature.

Should the bidder fail to execute any of his agreements as hereinabove set forth, the Owner shall have the right to retain as liquidated damages, the Bid Security attached in the sum of

(5 percent of Total Bid)

_____ Dollars,

($_____) which shall become the Owner's property for the delay and additional expense to the Owner caused thereby. If a bid bond was given, it is agreed that the amount thereof shall be paid as liquidated damages to the Owner by the Surety. (Bidder must fill in this blank.)

The bidder hereby acknowledges the receipt of, and has included in this BID, the following Addenda:

(To be filled in by Bidder, if Addendums are issues.)

Addendum No. _____, dated _____

Addendum No. _____, dated _____

Addendum No. _____, dated _____

The bidder, by submittal of this BID, agrees with the Owner that the amount of the bid security deposited with this BID fairly and reasonably represents the amount of damages the Owner will suffer due to the failure of the bidder to fulfill his agreements as above provided.

(SEAL)

_____ _____
(Name of Bidder)

By _____
(Signature and title of authorized representative)

_____
(Business address)

_____
(City and State)

Date _____

The bidder is a corporation incorporated in the State (or Commonwealth) of _____ - a partnership - an individual. (Bidder must add and delete as necessary to make this sentence read correctly.)

(Note: If the bidder is a corporation, affix corporate seal and give below the names of its president treasurer, and general manager, if any; if a partnership, give full names and residential addresses of all partners; and if an individual, give residential address, if different from business address.)

The required names and addresses of all persons interested in the foregoing Bid, as Principals, are as follows:

_____

_____

_____

_____

(Add supplementary page if necessary)

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CERTIFICATE OF AUTHORIZATION
FOR
BIDDING REPRESENTATIVE

(Note: Bidder must complete for certification of authorized representative signing Bid.)

At a duly authorized meeting of the Board of Directors of the

_____ held on _____, (Name
of Corporation) (Date)

at which all the Directors were present or waived notice, it was voted that

_____ _____

(Name of Authorized Representative) (Title)

of this company shall be, and hereby is, authorized to execute bidding documents, contracts and bonds in the name and on behalf of said company, and to affix the corporate seal thereto, and such execution of any contract obligation in this company's name on its behalf of such

_____ under seal of the company shall be valid and binding upon this company. (Title)

A true copy

ATTEST_____
(Clerk)

Place of Business_____

_____

I hereby certify that I am the clerk of the _____
(Name of Corporation)

_____, that _____
(Name of Authorized Representative)

is the duly elected _____ of said company, and that the
(Title)

above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

Corporate
_____Seal
(Clerk)

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STATEMENT OF BIDDERS' QUALIFICATIONS

The following shall accompany the bid and is required as evidence of the bidder's qualifications to perform the work, as bid upon, in accordance with the contract drawings and specifications. This statement must be notarized. All questions must be answered. Additional data may be submitted on separate attached sheets.

1. Name of Bidder _____

2. Permanent Main Office Address _____

3. Official Mailing Address For This Contract _____

4. When Organized? _____

5. Where Incorporated, If a Corporation _____

6. Years Contracting under Present Name _____

7. List contracts on hand, and those completed similar in nature to this kind of project.

Owner	Engineer	Contract	Description	Contract Amount	Completion Date

8. List any work the firm has failed to complete, state where and why.

_____

9. If you have ever defaulted on any contract, state where and why.

_____

10. List full names and residences of all principals (i.e.: Officers, Directors, Partners, Owners) interested in this bid.

Name	Residence	Title	Firm

11. State name(s) and qualifications of resident supervisor(s) for this project.

_____

_____

_____

12. List major equipment available for this project and identify ownership or rental.

_____

_____

_____

_____

13. Will you furnish a detailed financial statement and other information, requested by the Owner?

14. List bank references for verifying financial ability of your company.

Name	Address

15. The undersigned hereby authorized and requests any person, firm or corporation, to furnish all information requested by the Owner and/or its designated agents relative to the recitals comprising this Statement of the Bidder's Qualifications.

Dated at _____ this _____ day of _____20_____.

_____
(Name of Bidder)

By: _____

_____
(Title)

State of _____

County of _____

_____ being duly sworn in person, deposes and says

that he is _____ of _____,
(Title) (Name of Bidder)

that he is the firm's duly authorized agent to execute these contract documents, and that the

answers to the foregoing questions and all statements therein contained are correct and true.

Subscribed and sworn to before me this _____ day of _____ 20_____.

(SEAL)

_____
(Notary Public)

_____
(My Commission Expires)

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STATEMENT OF PROPOSED SUBCONTRACTORS

The following shall accompany the bid and is required as evidence of the bidder's qualifications to perform the work as bid upon, in accordance with the contract drawings and specifications. The Bidder must state the names and appurtenant information of all major subcontractors he proposed to use to complete the work as bid upon. Additional data may be submitted on separate attached sheets.

If subcontractors are not to be used to complete the Work and/or any portion thereof, as herein bid upon, the Bidder must acknowledge by writing "NONE" _____.

Description of Work _____

Approximate percentage of Total Bid _____

Proposed Subcontractor, Name _____

Address _____

Description of Work _____

Approximate percentage of Total Bid _____

Proposed Subcontractor, Name _____

Address _____

Description of Work _____

Approximate percentage of Total Bid _____

Proposed Subcontractor, Name _____

Address _____

Bidder to insert description of work, percentage of Total BID, and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest as respects this contract.

Date _____ Bidder _____
(Name of Bidder)

By _____
(Signature)

_____
(Title)

_____
(Business Address)

_____
(City and State)

LABOR HARMONY AND OSHA 10 CERTIFICATION

The undersigned certifies that they will conform to and provide documentation for the requirements as stated in MGL c. 30, §39S(a) as follows:

The bidder certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; and that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

_____

Name of Contractor/Business

_____

Signature of Authorized Representative of Contractor/Business

_____

Date

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CERTIFICATE OF NON - COLLUSION

Any person submitting a bid under this section shall, on such bid, certify the following: The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business, or legal entity.

_____

Name of Contractor/Business

_____

Signature of Authorized Representative of Contractor/Business

_____

Date

TAX COMPLIANCE CERTIFICATION

Pursuant to MGL c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors and withholding and remitting child support, and, subject to the conditions stated above, the contracting agency confirms with the Massachusetts Department of Revenue (DOR) that the person is in good standing with respect to all returns due and taxes payable to DOR as of the date of confirmation.

_____

Name of Contractor/Business

_____

Signature of Authorized Representative of Contractor/Business

_____

Social Security or Federal Identification Number

_____

Date

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SECTION 02510
CONSTRUCTION SPECIFICATIONS

Addendum #1

→ **ITEM 767.12** **COMPOST FILTER TUBES** **FOOT**

The purpose of this Item is to provide a linear, compost-filled tube for filtering suspended sediments from storm water flow. This item shall conform to the requirements of Section 751 and 767 of the Standard Specifications and the following.

Material for the filter tubes shall be compost meeting M1.06.0, except that no manure or bio-solids shall be used. In addition, no kiln-dried wood or construction debris shall be allowed. Compost shall pass through a 3 inch sieve.

Tubes for compost filters shall be a 12 to 18 inches in diameter, and shall be jute mesh or approved biodegradable material. Additional tubes shall be used at the direction of the Engineer.

A 1 foot wide by 2 inch deep wedge of compost spread along the top of the filter tube shall be incidental to this Item.

Stakes for anchors, if required, shall be nominal 2x2 stakes.

Tubes of compost may be filled on site or shipped. Tubes shall be placed, filled and staked in place as required to ensure stability against water flows. All tubes shall be tamped to ensure good contact with soil.

The Contractor shall ensure that the filter tubes function as intended at all times. Tubes shall be inspected after each rainfall and at least daily during prolonged rainfall. The Contractor shall immediately correct all deficiencies, including, but not limited, to washout, overtopping, clogging due to sediment and erosion, and review location of tubes in areas where construction activity causes drainage runoff to ensure that the tubes are properly located for effectiveness. Where deficiencies exist, such as overtopping or wash-out, additional staking or compost material shall be installed as directed by the Engineer. Sediment deposits shall be removed as necessary to maintain the filters in working condition.

Filter tube fabric and stakes shall be removed when site conditions are sufficiently stable to prevent surface erosion, and after receiving permission to do so from the Engineer. All tube fabric shall be cut and removed and disposed of off-site by the Contractor. At the direction of the Engineer, the Contractor may rake out and seed compost so that it is no greater than 2 inches in depth on soil substrate.

Measurement for this Item shall be by the foot of compost installed, approved, and maintained in place. Payment shall be per foot and shall be compensation for all labor equipment and materials necessary to complete the work specified above, including, but not limited to, stakes and tube fabric, compost mulch wedge along top of tubes, removal and disposal of fabric and stakes, raking and seeding of compost.

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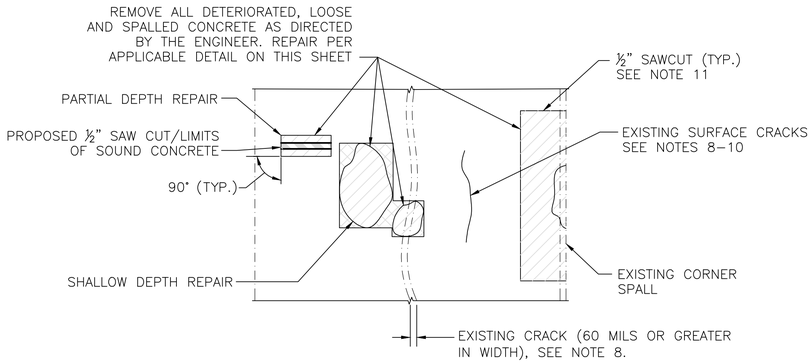
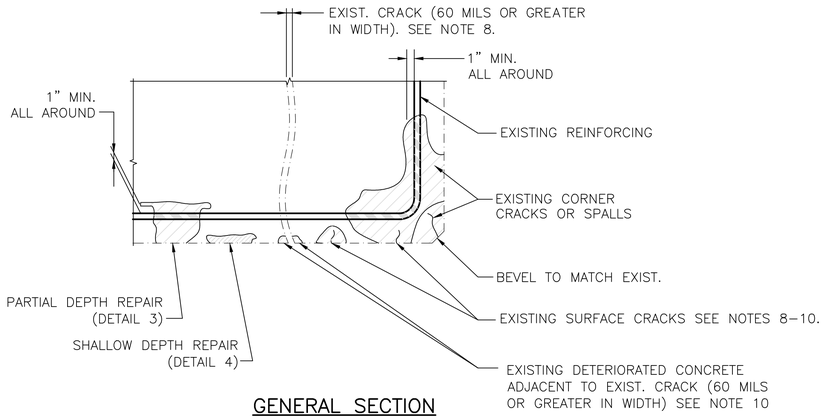


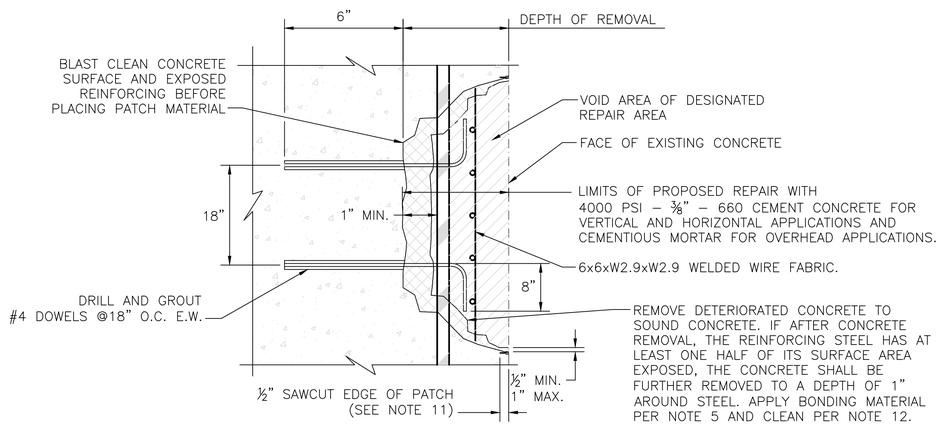
GENERAL ELEVATION

NOT TO SCALE



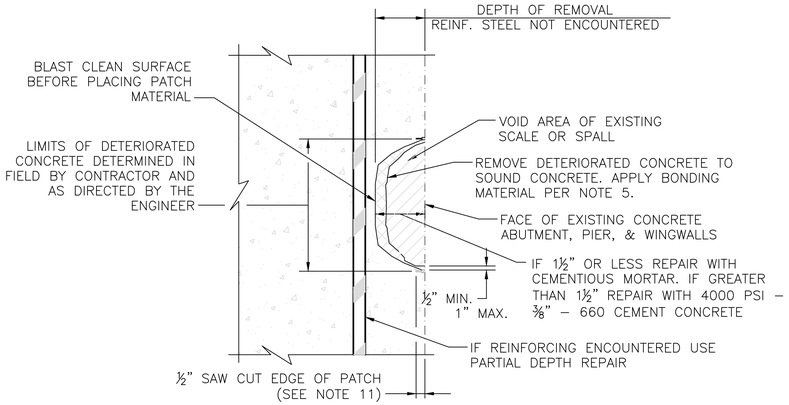
GENERAL SECTION

NOT TO SCALE



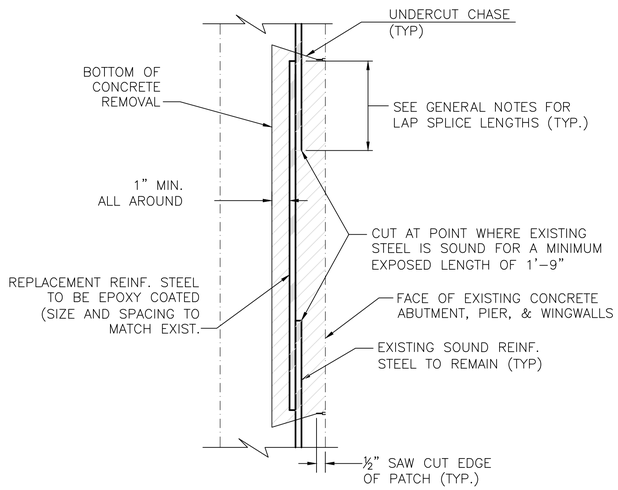
DETAIL 3: PARTIAL DEPTH SUBSTRUCTURE REPAIR

NOT TO SCALE



DETAIL 4: SHALLOW DEPTH SUBSTRUCTURE REPAIR

NOT TO SCALE

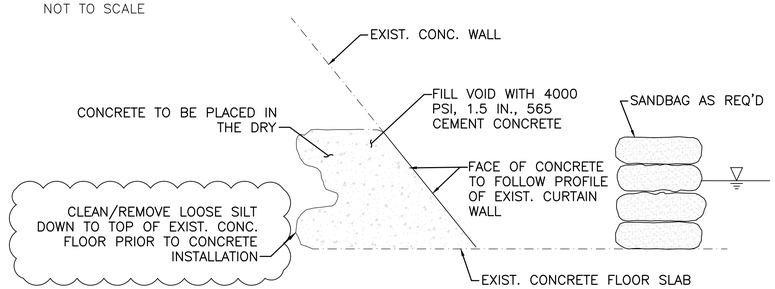


NOTES:

1. THIS DETAIL SHALL BE USED ONLY IF THE CONTRACTOR DAMAGES EXISTING REINFORCING TO THE EXTENT THAT THE REINFORCING REQUIRES REPLACEMENT.

REINFORCING REPLACEMENT

NOT TO SCALE



REVETMENT DETAIL

NOT TO SCALE

CONCRETE REPAIR NOTES:

1. THE ACTUAL LOCATIONS AND EXTENT OF VARIOUS TYPES OF CONCRETE REPAIR WILL BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL REPAIR ALL AREAS DETERMINED NECESSARY AS DIRECTED BY THE ENGINEER AFTER THE CONTRACTOR HAS SOUNDED AND MARKED OUT ALL REPAIR AREAS.
2. AREAS REQUIRING REPAIRS THAT ARE GREATER THAN 1½" DEEP SHALL BE REPAIRED USING 4000 PSI – ⅜" – 660 CEMENT CONCRETE. AREAS LESS THAN 1½" DEEP SHALL BE REPAIRED USING CEMENTITIOUS MORTAR FOR PATCHING.
3. IF DURING REMOVAL OF DETERIORATED CONCRETE, THE CONTRACTOR DAMAGES EXISTING REINFORCEMENT TO THE EXTENT REQUIRING REPLACEMENT, ANY ADDITIONAL CONCRETE REMOVAL, PATCHING MATERIAL, CLEANING EXISTING REINFORCING STEEL, AND FURNISHING AND INSTALLING REPLACEMENT REINFORCING STEEL SHALL BE AT THE CONTRACTOR'S EXPENSE. INSTALL ACCORDING TO REINFORCING REPLACEMENT DETAIL ON THIS SHEET.
4. REINFORCEMENT, INCLUDING WELDED WIRE FABRIC, USED TO REPLACE EXISTING DETERIORATED REINFORCING STEEL (SECTION LOSS OF 15% OR MORE OF THE ORIGINAL CROSS SECTION, AS DETERMINED BY THE ENGINEER) SHALL BE EPOXY COATED. COST OF REPLACEMENT SHALL BE INCLUDED IN THE RESPECTIVE REPAIR ITEMS.
5. IMMEDIATELY PRIOR TO PLACING NEW CONCRETE OR MORTAR AGAINST EXISTING CONCRETE, CLEAN EXISTING SURFACES BY ABRASIVE BLASTING AND APPLY APPROVED BONDING COMPOUND IMMEDIATELY PRIOR TO PLACING CONCRETE.
6. ALL EXISTING SURFACES THAT WILL HAVE NEW CONCRETE CAST AGAINST IT MUST BE ROUGHENED TO A MINIMUM AMPLITUDE OF ¼".
7. CONCRETE REPAIR WORK INCLUDES REMOVING ALL DETERIORATED, LOOSE, SPALLED, POPCORNED AND MAP CRACKED CONCRETE (ITEM 144.). CONCRETE WHICH HAS SPALLED OR OTHERWISE DETERIORATED ADJACENT TO SURFACE CRACK SHALL BE REPAIRED.
8. CRACKS THAT ARE 60 MILS OR GREATER IN WIDTH SHALL BE SEALED WITH A METHACRYLATE SEALER, A SILANE SEALER, OR EPOXY INJECTION. SEE SPECIAL PROVISIONS FOR ADDITIONAL GUIDELINES.
9. CRACKS THAT ARE LESS THAN 60 MILS IN WIDTH SHALL NOT BE REPAIRED UNLESS DIRECTED BY THE ENGINEER.
10. WHERE PATCHING AND CRACK SEALING WORK ARE ADJACENT, CRACK SEALING SHALL BE PERFORMED BEFORE PATCHING.
11. ALL DETERIORATED AREAS SHALL BE DELINEATED BY A ½" SAWCUT. THE COST OF SAWCUTTING SHALL BE INCLUDED UNDER ITEM 127.12.
12. ALL EXPOSED STEEL SHALL BE THOROUGHLY BLAST CLEANED TO A WHITE METAL FINISH AND COATED WITH EPOXY IN ACCORDANCE WITH AASHTO M284 (ASTM D3963). BLAST CLEANING AND EPOXY SHALL BE INCLUDED IN THE RESPECTIVE CONCRETE REPAIR ITEM.
13. ALL SURFACES SHALL BE RUBBED TO PRODUCE A SMOOTH FINISH. NO ADDITIONAL MATERIAL SHALL BE ADDED TO CONCRETE.

LEGEND:

- DETERIORATED CONCRETE TO BE REMOVED.
- REINFORCING STEEL.
- ADDITIONAL CONCRETE TO BE REMOVED.

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	07/26/16	TMW	MG	ADDENDUM 1

REVISIONS

DRAWN BY:

DESIGNED BY:

CHECKED BY:

PE STAMP: COMMONWEALTH OF MASSACHUSETTS — MARK R. GERSHMAN — STRUCTURAL — No. 38751 — REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA — www.BETA-Inc.com

SCALE: AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

FREEDOM STREET
OVER MILL RIVER
CONCRETE REPAIR DETAILS
HOPEDALE, MASSACHUSETTS

BETA JOB No. 5275

PLOT DATE: 7/26/2016 11:39 AM

ISSUE DATE 3/31/2016 11:38 AM

SHEET No. **11 OF 14**

File: Sheet_ConcreteRepairs.dwg

O:\5200\5275 - HOPEDALE - FREEDOM ST\DRAWING FILES\STRUCTURAL\—FINAL DESIGN—\CONCRETE REPAIRS\SHEET_CONCRETEREPAIRS.DWG

STRUCTURES INSPECTION FIELD REPORT

ROUTINE INSPECTION

2-DIST	B.I.N.	BR. DEPT. NO.
03	1G1	H-22-001

CITY/TOWN	8.-STRUCTURE NO.	11-Kilo. POINT	41-STATUS	90-ROUTINE INSP. DATE
HOPEDALE	H22001-1G1-MUN-NBI	001.529	A:OPEN	AUG 3, 2010

07-FACILITY CARRIED	MEMORIAL NAME/LOCAL NAME	27-YR BUILT	106-YR REBUILT	YR REHAB'D (NON 106)
HWY FREEDOM ST		1948	1989	0000

06-FEATURES INTERSECTED	26-FUNCTIONAL CLASS	DIST. BRIDGE INSPECTION ENGINEER
WATER MILL RIVER	Urban Local	L. A. Gauthier

43-STRUCTURE TYPE	22-OWNER	21-MAINTAINER	TEAM LEADER
201 : Concrete continuous Slab	Town Agency	Town Agency	R. C. Angell

107-DECK TYPE	WEATHER	TEMP. (air)	TEAM MEMBERS
1 : Concrete Cast-in-Place	Cloudy	26°C	J. SNYDER

ITEM 58 — DECK: 7

		DEF
1. Wearing surface	8	-
2. Deck Condition	7	-
3. Stay in place forms	N	-
4. Curbs	7	-
5. Median	N	-
6. Sidewalks	6	S-P
7. Parapets	7	-
8. Railing	7	S-P
9. Anti Missile Fence	N	-
10. Drainage System	8	-
11. Lighting Standards	N	-
12. Utilities	3	S-A
13. Deck Joints	N	-
14.	N	-
15.	N	-
16.	N	-

CURB REVEAL (In millimeters)	N	S
	225	225

APPROACHES

		DEF
a. Appr. pavement condition	7	M-P
b. Appr. Roadway Settlement	8	-
c. Appr. Sidewalk Settlement	8	-
d.	N	-

OVERHEAD SIGNS (Attached to bridge) (Y/N): N

		DEF
a. Condition of Welds	N	-
b. Condition of Bolts	N	-
c. Condition of Signs	N	-

ITEM 59 — SUPERSTRUCTURE: 7

		DEF
1. Stringers	N	-
2. Floorbeams	N	-
3. Floor System Bracing	N	-
4. Girders or Beams	4	S-A
5. Trusses - General	N	-
a. Upper Chords	N	-
b. Lower Chords	N	-
c. Web Members	N	-
d. Lateral Bracing	N	-
e. Sway Bracings	N	-
f. Portals	N	-
g. End Posts	N	-
6. Pin & Hangers	N	-
7. Conn Plt's, Gussets & Angles	N	-
8. Cover Plates	N	-
9. Bearing Devices	N	-
10. Diaphragms/Cross Frames	N	-
11. Rivets & Bolts	N	-
12. Welds	N	-
13. Member Alignment	7	-
14. Paint/Coating	2	S-P
15. Concrete slab	7	-

Year Painted	N

COLLISION DAMAGE: *Please explain*
None (X) Minor ( ) Moderate ( ) Severe ( )

LOAD DEFLECTION: *Please explain*
None (X) Minor ( ) Moderate ( ) Severe ( )

LOAD VIBRATION: *Please explain*
None (X) Minor ( ) Moderate ( ) Severe ( )

Any Fracture Critical Member: **(Y/N)** N

Any Cracks: **(Y/N)** N

ITEM 60 — SUBSTRUCTURE: 6

	Dive	Cur		DEF
1. Abutments			6	
a. Pedestals	N	N		-
b. Bridge Seats	N	H		-
c. Backwalls	N	N		-
d. Breastwalls	7	6		M-P
e. Wingwalls	N	N		-
f. Slope Paving/Rip-Rap	N	N		-
g. Pointing	N	N		-
h. Footings	H	X		-
i. Piles	X	N		-
j. Scour	8	5		M-P
k. Settlement	7	7		-
l. Floor	7	5		S-P
m.	N	N		-
2. Piers or Bents			7	
a. Pedestals	N	N		-
b. Caps	N	N		-
c. Columns	N	N		-
d. Stems/Webs/Pierwalls	7	7		-
e. Pointing	N	N		-
f. Footing	H	X		-
g. Piles	X	X		-
h. Scour	8	7		-
i. Settlement	8	7		-
j. Floor	7	5		S-P
k.	N	N		-
3. Pile Bents			N	
a. Pile Caps	N	N		-
b. Piles	N	N		-
c. Diagonal Bracing	N	N		-
d. Horizontal Bracing	N	N		-
e. Fasteners	N	N		-

UNDERMINING (Y/N) If YES please explain: Y

COLLISION DAMAGE:
None (X) Minor ( ) Moderate ( ) Severe ( )

SCOUR: *Please explain*
None (X) Minor ( ) Moderate ( ) Severe ( )

I-60 (Dive Report): 7 *I-60 (This Report):* 6

93B-U/W (DIVE) Insp 10/01/2007

X=UNKNOWN N=NOT APPLICABLE H=HIDDEN/INACCESSIBLE R=REMOVED

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
HOPEDALE	**1G1**	**H-22-001**	**H22001-1G1-MUN-NBI**	**AUG 3, 2010**

ITEM 61 — CHANNEL & CHANNEL PROTECTION: 5

	Dive	Cur	DEF
1.Channel Scour	5	5	-
2.Embankment Erosion	7	5	S-P
3.Debris	8	7	-
4.Vegetation	7	7	-
5.Utilities	7	H	-
6.Rip-Rap/Slope Protection	N	N	-
7.Aggradation	8	7	-
8.Fender System	N	N	-

STREAM FLOW VELOCITY:
Tidal ( ) High ( ) Moderate ( ) Low ( ) None (**X**)

ITEM 61 (Dive Report): **5** ***ITEM 61 (This Report):*** **5**

93b-U/W INSP. DATE: 10/01/2007

ITEM 36 — *TRAFFIC SAFETY*

	36	COND	DEF
A. Bridge Railing	0	7	S-P
B. Transitions	0	7	S-P
C. Approach Guardrail	0	7	S-P
D. Approach Guardrail Ends	0	7	S-P

WEIGHT POSTING — *Not Applicable* X

	H	3	3S2	Single
Actual Posting	N	N	N	N
Recommended Posting	N	N	N	N

Waived Date: 00/00/00 **EJDMT Date:** 00/00/00

Signs In Place (Y=Yes,N=No, NR=NotRequired)	At bridge E	At bridge W	Other Advance E	Other Advance W
Legibility/ Visibility				

CLEARANCE POSTING — *Not Applicable* X

	N ft	N in	S ft	S in	meter
Actual Field Measurement		0		0	
Posted Clearance		0		0	

Signs In Place (Y=Yes,N=No, NR=Not Required)	At bridge N	At bridge S	Advance N	Advance S
Legibility/ Visibility				

ACCESSIBILITY (Y/N/P)

	Needed	Used
Lift Bucket	N	N
Ladder	P	Y
Boat	N	N
Waders	Y	Y
Inspector 50	N	N
Rigging	N	N
Staging	N	N
Traffic Control	N	N
RR Flagger	N	N
Police	N	N
Other:		
	N	N

TOTAL HOURS 8

PLANS (Y/N): N

(V.C.R.) (Y/N): N

TAPE#: _____

List of field tests performed:
None:

RATING

Rating Report (Y/N): Y

Date: 02/01/1994

Inspection data at time of existing rating
I 58: **7** I 59: **8** I 60: **8** Date : 06/13/1991

(To be filled out by DBIE)
Request for Rating or Rerating (Y/N): N

If YES please give priority:
HIGH ( ) MEDIUM ( ) LOW ( )

REASON: _____

CONDITION RATING GUIDE (For Items 58, 59, 60 and 61)

	CODE	CONDITION	DEFECTS
	N	NOT APPLICABLE	
G	9	EXCELLENT	Excellent condition.
G	8	VERY GOOD	No problem noted.
G	7	GOOD	Some minor problems.
F	6	SATISFACTORY	Structural elements show some minor deterioration.
F	5	FAIR	All primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
P	4	POOR	Advance section loss, deterioration, spalling or scour.
P	3	SERIOUS	Loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
C	2	CRITICAL	Advance deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
C	1	"IMMINENT" FAILURE	Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stablility. Bridge is closed to traffic but corrective action may put it back in light service.
	0	FAILED	Out of service - beyond corrective action.

DEFICIENCY REPORTING GUIDE

DEFICIENCY: A defect in a structure that requires corrective action.

CATEGORIES OF DEFICIENCIES:

M= Minor Deficiency - Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.

S= Severe/Major Deficiency - Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.

C-S= Critical Structural Deficiency - A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.

C-H= Critical Hazard Deficiency - A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.

URGENCY OF REPAIR:

I = Immediate- [Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].

A = ASAP- [Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].

P = Prioritize- [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
HOPEDALE	**1G1**	**H-22-001**	**H22001-1G1-MUN-NBI**	**AUG 3, 2010**

REMARKS

BRIDGE ORIENTATION

Orientation from the rating report.

The approaches are West to East and the elevations are South to North. This is a five span concrete slab with spans numbered from West to East. There are four piers numbered from the West to East. The river flows from North to South. The South end of the South sidewalk is supported by a 14 in. high steel beam.

GENERAL REMARKS

Note: There are no plans available for this structure.

Note:

There is an adjacent sluiceway at the Northeast corner of the bridge. Part of the retaining wall at this location has fallen into the pond.

ITEM 58 - DECK

Item 58.1 - Wearing surface

The bituminous concrete (bit. conc.) wearing surface has been repaved.

Item 58.2 - Deck Condition

There is an approx. 7 in. high x 7 in. wide x 3 in. deep triangle shaped spall to the outside end of the deck slab, at the Northeast corner**. See photo #1.** There is a up to 4 ft. long x 12 in. high x 3 in. deep spall with exposed rusting rebars, to the South outside face of the deck slab, in span #2, exposing the granite curb. **See photo #2.**

Item 58.6 - Sidewalks

The sidewalk wearing surface has been repaved with a bit. conc. overlay. The underside of the sidewalk has full width transverse rust staining and some small areas of spalling throughout. There is a 12 in. x 6 in. x 2 in. deep spall with exposed rusting rebar, to the sidewalk underside in span #1. **See photo #3.** Re: Item #59.4 for sidewalk beam remarks.

Item 58.7 - Parapets

Both parapets have several short vertical hairline cracks with light efflorescence. There is an up to 4 ft. long x approx. 14 in. high x 3 in. deep spall with exposed rusting rebars, to the South parapet, in span #2, above the spall to the South face of the deck slab. **See photo #2.**

Item 58.8 - Railing

There is a 1 ft. tear to the top AL-3 approach rail at the Northeast corner. This tear is patched with caulking that is beginning to peel away, exposing the tear. **See photo #4.**

Item 58.12 - Utilities

The utility assembly (for gas & water) is built-up from the dam below. Consisting of 4 in. high steel "I" beams that are placed transversely supported by the dam at one end. These "I" beams have 100% section loss to the webs of #1, #5, #6, #7, and #9, the remainder have severe rust flaking of steel and section loss. "I" beam #9 has 100% section loss to the bottom flange, the remainder have severe rust flaking and section loss. **See photos #5 & #6.** The utility support hanger assembilies have severe rust flaking to the plates and nuts, some with 100% section loss. The inside utility (water) is missing some of the "U" bolts.

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
HOPEDALE	**1G1**	**H-22-001**	**H22001-1G1-MUN-NBI**	**AUG 3, 2010**

REMARKS

APPROACHES

Approaches a - Appr. pavement condition
The bit. conc. approach pavement has been repaved. There is a transverse crack, the full width of the Eastbound travel lane, at the West bit. conc. approach to deck transition.

ITEM 59 - SUPERSTRUCTURE

Item 59.4 - Girders or Beams
The sidewalk is supported by a 14 in. high steel beam along the entire length of the South side of the sidewalk. This beam has moderate to heavy rusting, rust flaking and corrosion of steel. **See photo #7**.

Item 59.15 - Concrete slab
Re: Item #58.2.

ITEM 60 - SUBSTRUCTURE

Item 60.1 - Abutments
Item 60.1.d - Breastwalls
Approx. 80% of the top of the West breastwall shows moderate spalling up to 8 in. high x 2 in. deep with heavy efflorescence and light rust staining along the breastwall/bridge seat area. **See photo #8.** The West breastwall has a full height crack up to 3 in. wide x 4 in. deep. There is an approx. 5 ft. high x 3 ft. wide x up to 4 in. deep spall at the South end of the West breastwall. The East breastwall has moderate to heavy efflorescence and light rust staining throughout the top. Both breastwalls have minor waterline abrasion. The bottom North corner of the East breastwall shows concrete deterioration and is undermined with up to up to 4 in. penetration. This concrete deterioration and undermining extends throughout the bottom of the channel wall between the structure and the adjacent sluiceway. **See photo #9.**

Item 60.1.j - Scour
Re: Underwater inspection dated 10/1/2007.

Item 60.1.l - Floor
There is a 3 in. diameter hole to the concrete floor in span #2, near the North end, with at least 1 ft. of penetration. **See photo #10.** There are several full width cracks to the concrete floor, in all three barrels. The Concrete apron has settled slightly along the floor of the structure, at the North side of the bridge. **See photo #11.**

Item 60.2 - Piers or Bents
Item 60.2.d - Stems/Webs/Pierwalls
All pierwalls show moderate abrasion, from the high waterline down to the concrete floor.

Item 60.2.j - Floor
Re: Item #60.1l.

SubStructure Undermining Notes
Re: Item #61.2.

ITEM 61 - CHANNEL AND CHANNEL PROTECTION

Item 61.1 - Channel Scour
Re: Underwater inspection dated 10/1/2007.

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REMARKS

Item 61.2 - Embankment Erosion
The downstream Southeast dry laid stone channel wall has several missing stones causing a large void adjacent to the back of the East breastwall. This void is undermining the South end of the East concrete breastwall approx. 2 ft. **See photo #12.** The Southeast channel wall shows several other isolated small voids throughout. There is concrete deterioration and undermining throughout the bottom of the channel wall (dam) between the structure and the adjacent sluiceway, at the Northeast corner of the bridge. **See photo #9.**

Item 61.3 - Debris
There is a small wooden dam along the South side (downstream) of the structure, which was in the dry at time of this inspection, and has collected small amounts of debris.

TRAFFIC SAFETY

Item 36a - Bridge Railing
Both bridgerails consist of AL-3 rails with aluminum posts and concrete end posts. Re: Item #58.8 for condition remarks.

Item 36b - Transitions
There are no traffic safety features needed at the Southwest and Southeast corners due to a building in these locations. There are no traffic safety features at the Northwest corner. The Northeast traffic safety features are a continuation of the bridgerail.

Item 36c - Approach Guardrail
Re: Item #36b.

Item 36d - Approach Guardrail Ends
Re: Item # 36b. The Northeast terminal end (continuation of bridge rail) is not turned from traffic or buried.

Photo Log
Photo 1 : Spall to the Northeast outside corner of the deck slab.
Photo 2 : Spall to the outside face of the deck slab and parapet, in span #2.
Photo 3 : Spall to the underside of the South concrete sidewalk, in span #1.
Photo 4 : Small tear to the top AL-3 approach rail, at the Northeast corner of the bridge.
Photo 5 : Heavily corroded utility supports at the South side of the bridge.
Photo 6 : Heavily corroded utility supports at the South side of the bridge.
Photo 7 : Heavily rusted and corroded South sidewalk fascia beam.
Photo 8 : Spalling along the top of the West breastwall.
Photo 9 : Concrete deterioration and undermining to the North end of the East breastwall and channel wall.
Photo 10 : 3 in. diameter hole to the concrete floor in span #2.
Photo 11 : Concrete apron settled along the floor of the bridge, at the North side.
Photo 12 : Missing stones and voids to the Southeast channel wall, adjacent to the East concrete breastwall.

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
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PHOTOS

Photo 1: **Spall to the Northeast outside corner of the deck slab.**

Photo 2: **Spall to the outside face of the deck slab and parapet, in span #2.**

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
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PHOTOS

Photo 3: **Spall to the underside of the South concrete sidewalk, in span #1.**

Photo 4: **Small tear to the top AL-3 approach rail, at the Northeast corner of the bridge.**

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PHOTOS

Photo 5: **Heavily corroded utility supports at the South side of the bridge.**

Photo 6: **Heavily corroded utility supports at the South side of the bridge.**

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
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PHOTOS

Photo 7: **Heavily rusted and corroded South sidewalk fascia beam.**

Photo 8: **Spalling along the top of the West breastwall.**

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
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PHOTOS

Photo 9: **Concrete deterioration and undermining to the North end of the East breastwall and channel wall.**

Photo 10: **3 in. diameter hole to the concrete floor in span #2.**

CITY/TOWN	B.I.N.	BR. DEPT. NO.	8.-STRUCTURE NO.	INSPECTION DATE
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PHOTOS

Photo 11: **Concrete apron settled along the floor of the bridge, at the North side.**

Photo 12: **Missing stones and voids to the Southeast channel wall, adjacent to the East concrete breastwall.**